



SEQUENCE LISTING

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LOCARNINI, STEPHEN ALISTER
TORRESI, JOSEPH

<120> VIRAL VARIANTS AND USES THEREFOR

<130> 4420.000600

<140> 09/877,340

<141> 2001-06-08

<150> 60/210,395

<151> 2000-06-09

<160> 18

<170> PatentIn version 3.0

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<211> 76

<212> PRT

<213> Hepatitis B virus

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<223> X = L, R, or I

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Leu	Xaa	Xaa	Asp	Trp	Gly	Pro	Cys	Xaa	Xaa	His	Gly	Xaa	His	Xaa	Ile
1			5					10						15	
Arg	Xaa	Pro	Arg	Thr	Pro	Xaa	Arg	Val	Xaa	Gly	Gly	Val	Phe	Leu	Val
			20					25					30		
Asp	Lys	Asn	Pro	His	Asn	Thr	Xaa	Glu	Ser	Xaa	Leu	Xaa	Val	Asp	Phe
			35				40					45			
Ser	Gln	Phe	Ser	Arg	Gly	Xaa	Xaa	Xaa	Val	Ser	Trp	Pro	Lys	Phe	Ala
	50					55					60				
Val	Pro	Asn	Leu	Xaa	Ser	Leu	Thr	Asn	Leu	Leu	Ser				
65					70					75					

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Ser Xaa Leu Ser Trp Leu Ser Leu Asp Val Ser Ala Ala Phe Tyr His
1 5 10 15

Xaa Pro Leu His Pro Ala Ala Met Pro His Leu Leu Xaa Gly Ser Ser
20 25 30

Gly Leu Xaa Arg Tyr Val Ala Arg Leu Ser Ser Xaa Ser Xaa Xaa Xaa
35 40 45

Asn Xaa Gln Xaa Xaa Xaa Xaa Xaa Xaa Leu His Xaa Xaa Cys Ser Arg
50 55 60

Xaa Leu Tyr Val Ser Leu Xaa Leu Leu Tyr Xaa Thr Xaa Gly Xaa Lys
65 70 75 80

Leu His Leu Xaa Xaa His Pro Ile Xaa Leu Gly Phe Arg Lys Xaa Pro
85 90 95

Met Gly Xaa Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala
100 105 110

Ile Xaa Xaa Xaa Xaa Xaa Arg Ala Phe Xaa His Cys Xaa Xaa Phe Xaa
115 120 125

Tyr Met Asp Asp Xaa Val Leu Gly Ala Xaa Xaa Xaa Xaa His Xaa Glu
130 135 140

Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Leu Xaa Xaa Gly Ile His
145 150 155 160

Leu Asn Pro Xaa Lys Thr Lys Arg Trp Gly Tyr Ser Leu Asn Phe Met
165 170 175

Gly Tyr Xaa Ile Gly
180

<210> 3
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<213> Hepatitis B virus

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<222> (1)..(32)
<223> SYNTHETIC

<400> 3

Thr Gly Pro Cys Lys Thr Cys Thr Thr Pro Ala Gln Gly Asn Ser Met
1 5 10 15

Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr Cys
20 25 30

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<222> (1)..(89)
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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15

Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala Ile
50 55 60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Met Asp Asp Val Val Leu Gly Ala Lys
85

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Thr Gly Pro Cys Lys Thr Cys Thr Thr Pro Ala Gln Gly Asn Ser Met
1 5 10 15

Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Arg Asn Cys Thr Cys
20 25 30

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Thr Gly Thr Cys Lys Thr Cys Thr Thr Pro Ala Gln Gly Asn Ser Met
1 5 10 15

Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr Cys
20 25 30

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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15

Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Met Ala Gln Phe Thr Ser Ala Ile
50 55 60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Met Asp Asp Val Val Leu Gly Ala Lys
85

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<400> 8

Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15
Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30
His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45
Gly Val Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala Ile
50 55 60
Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80
Val Asp Asp Val Val Leu Gly Ala Lys
85

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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15
Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30
His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45
Gly Val Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala Ile
50 55 60
Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr

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70

75

80

Ile Asp Asp Val Val Leu Gly Ala Lys
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Thr Gly Pro Cys Lys Thr Cys Thr Thr Pro Ala Gln Gly Asn Ser Met
1 5 10 15

Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Arg Asn Cys Thr Cys
20 25 30

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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15

Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala Ile
50 55 60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Ile Asp Asp Val Val Leu Gly Ala Lys
85

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Thr Gly Thr Cys Lys Thr Cys Thr Thr Pro Ala Gln Gly Asn Ser Met
1 5 10 15

Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr Cys
20 25 30

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<220>
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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
1 5 10 15

Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Leu Ala Gln Phe Thr Ser Ala Ile
50 55 60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Ile Asp Asp Val Val Leu Gly Ala Lys
85

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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
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Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Met Ala Gln Phe Thr Ser Ala Ile
50 55 60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Val Asp Asp Val Val Leu Gly Ala Lys
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Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Arg Asn Cys Thr Cys
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Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
 20 25 30
 His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
 35 40 45
 Gly Val Gly Leu Ser Pro Phe Leu Met Ala Gln Phe Thr Ser Ala Ile
 50 55 60
 Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
 65 70 75 80
 Val Asp Asp Val Val Leu Gly Ala Lys
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 Phe Pro Ser Cys Cys Cys Thr Lys Pro Thr Asp Gly Asn Cys Thr Cys
 20 25 30

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Asn Gln Tyr Gly Thr Met Gln Asn Leu His Asp Ser Cys Ser Arg Gln
 1 5 10 15
 Leu Tyr Val Ser Leu Met Leu Leu Tyr Lys Thr Tyr Gly Trp Lys Leu
 20 25 30

His Leu Tyr Ser His Pro Ile Val Leu Gly Phe Arg Lys Ile Pro Met
 35 40 45

Gly Val Gly Leu Ser Pro Phe Leu Met Ala Gln Phe Thr Ser Ala Ile

50

55

60

Cys Ser Val Val Arg Arg Ala Phe Pro His Cys Leu Ala Phe Ser Tyr
65 70 75 80

Val Asp Asp Val Val Leu Gly Ala Lys
85

ACI
at con. lab.